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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,898	01/29/2002	Eiichi Takami	03500.012697.1	5158
5514	7590	11/17/2003	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			LUU, THANH X	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,898	TAKAMI ET AL.	
	Examiner	Art Unit	
	Thanh X Luu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>12002</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to preliminary amendments filed January 29, 2002. Claims 21-53 are currently pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the grid must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 28-32, 34, 47-50 and 52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 28 and 46, "the provision of the photoelectric conversion elements" and "the provision of the conductive member" lacks proper antecedent basis.

Regarding claims 29, 30, 47 and 48, "the periphery" lacks proper antecedent basis.

Regarding claims 30-32, 34, 48-50 and 52, "the substrate" lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 21, 24, 25, 28, 35, 37, 38, 42, 43, 46, 53, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Pommerrenig (U.S. Patent 4,350,886).

Regarding claims 21, 24, 25, 28, 35, 37, 38, 42, 43, 46, 53, Pommerrenig discloses (see Figure 2) a photoelectric conversion device, comprising: a plurality of substrates (26) each having a plurality of photoelectric conversion elements (pixels on 44), the plurality of substrates being arranged adjacent to each other, and a conductive member (20) stacked and arranged on the photoelectric conversion elements over the plurality of substrates. Pommerrenig further discloses (see Figure 2) an insulating base (20) and a conductive layer (32) provided thereon, and the conductive member is a metal (see column 9, lines 5-10). Pommerrenig also discloses (see Figure 2) an area of

the photoelectric conversion elements is smaller than an area of the conductive member and the elements are arranged in a matrix. A control circuit is inherent in the apparatus. Pommerrenig also discloses (see column 8, lines 60-65) detecting an x-ray.

7. Claims 21, 25, 27, 37, 43, 45, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Endo (U.S. Patent 5,569,390).

Regarding claims 21, 25, 27, 37, 43, 45, Endo discloses (see Figure 2) a photoelectric conversion device, comprising: a plurality of substrates (100) each having a plurality of photoelectric conversion elements (pixels on 100), the plurality of substrates being arranged adjacent to each other, and a conductive member (21) stacked and arranged on the photoelectric conversion elements over the plurality of substrates. Endo further discloses (see Figure 2) the conductive member is a metal and is grounded. A control circuit is inherent in the apparatus.

8. Claims 21-24, 25, 37, 39-43, as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by DePuydt et al. (U.S. Patent 5,635,718).

Regarding claims 21-24, 25, 37, 39-43, DePuydt et al. disclose (see Figure 2) a photoelectric conversion device, comprising: a plurality of substrates (18) each having a plurality of photoelectric conversion elements (pixels on 18, not shown), the plurality of substrates being arranged adjacent to each other, and a conductive member (16) stacked and arranged on the photoelectric conversion elements over the plurality of substrates. Depuydt et al. also disclose (see column 4, lines 40-45) a wavelength converting member or fluorescent layer (phosphor) between the photoelectric conversion elements and the conductive member. Depuydt et al. further disclose (see

Figure 2) the conductive member is a metal (22) on an insulator (16). A control circuit is inherent in the apparatus. Further, there is a grid (see Figure 1) on an image information inputting side of the photoelectric conversion devices.

9. Claims 21-23, 25-27, 29-32, 37, 40-42, 44, 45, 47-50, as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Crowell et al. (U.S. Patent 5,804,832).

Regarding claims 21-23, 25-27, 29-32, 37, 40-42, 44, 45, 47-50, Crowell et al. disclose (see Figures 4 and 5) a photoelectric conversion device, comprising: a plurality of substrates (24) each having a plurality of photoelectric conversion elements (26), the plurality of substrates being arranged adjacent to each other, and a conductive member (38, see also column 6, lines 35-45) stacked and arranged on the photoelectric conversion elements over the plurality of substrates. Crowell et al. also disclose (see Figure 8) a wavelength converting member or fluorescent layer (phosphor 74) between the photoelectric conversion elements and the conductive member. Crowell et al. further disclose (see column 6, lines 35-45) the conductive member is a metal (aluminum) and is grounded. A control circuit is inherent in the apparatus. In addition, Crowell et al. disclose (see Figure 5) a spaced formed between the substrate and the conductive member. Crowell et al. also disclose (see Figures 5 and 7) a periphery of the conductive member is sealed.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 33, 36, 51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowell et al.

Regarding claims 36 and 54, Crowell et al. disclose the claimed invention as set forth above. Crowell et al. do not specifically disclose the thickness of the metal layer. However, choosing a desired thickness of a layer is design choice and would require only routine skill in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a metal layer having a thickness of 100 microns or less in the apparatus of Crowell et al. to reduce the amount of metal used and reduce the costs associated with fabrication.

Regarding claims 33 and 51, Crowell et al. disclose the claimed invention as set forth above. Crowell et al. also disclose (see Figure 7) an adhesive used to seal the device. Crowell et al. do not specifically disclose a resin provided in the space as claimed. However, resins and adhesives are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a resin in the device of Crowell et al. to provide further protection for the device.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-

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0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
November 10, 2003


Thanh X. Luu
Patent Examiner